M&G Ref: 163.1448US01

What is claimed is:

1. A device for generating a liquid detergent concentrate from a solid detergent comprising:

- (a) solid detergent reservoir for holding solid detergent, and including a stock solution generating region for generating stock solution from solid detergent provided within the solid detergent reservoir;
- (b) water inlet for directing water onto solid detergent provided within the solid stock solution generating region for generating stock solution;
- (c) stock solution reservoir for holding stock solution generated in the stock solution generating region, the stock solution reservoir comprising:
 - (i) stock solution inlet for receiving stock solution from the stock solution generating region;
 - (ii) stock solution outlet for removal of stock solution; and
 - (iii) stock solution level sensor for sensing the level of stock solution provided within the stock solution reservoir and for generating a first signal and a second signal, the first signal indicating when the stock solution reservoir requires additional stock solution and the second signal indicating when the stock solution reservoir has a sufficient amount of stock solution; and
- (d) hot water heater for controlling the temperature of water provided to the water inlet.
- 2. A device according to claim 1, wherein the water inlet comprises a spray nozzle constructed to direct spray against solid detergent provided in the solid detergent reservoir.
- 3. A device according to claim 2, wherein the solid detergent reservoir comprises a support member for supporting the solid detergent and holding a bottom surface of the solid detergent at a constant distance from the nozzle.

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4. A device according to claim 1, wherein the solid detergent reservoir comprises a detergent guide for receiving a plurality of solid detergent blocks and holding the solid detergent blocks in place above the support member.

- 5. A device according to claim 4, wherein the guide comprises an upper edge for receiving a lip of a container containing solid detergent to be introduced into the solid detergent reservoir.
- 6. A device according to claim 1, further comprising a pump for removal of stock solution from the stock solution reservoir.
- 7. A device according to claim 6, wherein the pump comprises a compressed air driven pump.
- 8. A device according to claim 1, wherein the stock solution reservoir is constructed for holding between about one liter and about 20 liters stock solution.
- 9. A device according to claim 1, wherein the hot water heater is constructed to provide water to the water inlet at a temperature of between about 40°F and about 150°F.
- 10. A device according to claim 3, wherein the distance between the bottom surface of the solid detergent and the nozzle is between about two inches and about 12 inches.
- 11. A device according to claim 1, further comprising a processor for controlling the flow of water to the water inlet.
- 12. A device according to claim 1, wherein the stock solution level sensor comprises a low level sensor and a high level sensor, the low level sensor being provided for indicating when the stock solution reservoir requires additional stock solution and the high level sensor provided for indicating when the stock solution reservoir has a sufficient amount of stock solution.

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13. A device according to claim 1, wherein the solid detergent reservoir includes a support member for holding solid detergent within the stock solution generating region.

- 14. A device according to claim 13, wherein the support member comprises a screen having a mesh size of between about 1/16 sq. in. and about 4 sq. in.
- 15. A method of generating a liquid detergent concentrate from a solid detergent, the method comprising steps of:
 - (a) applying water against a solid detergent in a solid detergent reservoir to provide a liquid detergent concentrate, wherein the water is provided at a relatively constant temperature and the relatively constant temperature is provided within a range of about 40°F and about 150°F;
 - (b) collecting the liquid detergent concentrate in a liquid detergent concentrate reservoir;
 - (c) monitoring the amount of liquid detergent concentrate within the liquid detergent concentrate reservoir and providing a first signal and a second signal, the first signal indicating when sufficient liquid detergent concentrate is provided within the liquid detergent concentrate reservoir and the second signal indicating when more liquid detergent concentrate is needed within the liquid detergent concentrate reservoir; and
 - (d) controlling the flow of water against the solid detergent provided within the solid detergent reservoir based on the first signal and the second signal.
- 16. A method according to claim 15, wherein the relatively constant temperature comprises a temperature that is allowed to fluctuate within a range of about 10°F.
- 17. A method according to claim 15, wherein the solid detergent is in the form of a powder, pellet, flake, brick, block, or gel.

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18. A method according to claim 15, wherein the water is controlled at a temperature of about 40°F to about 150°F.

- 19. A method according to claim 15, wherein the water is controlled at a temperature of about 80°F to about 140°F.
- 20. A method according to claim 15, further comprising a step of:
 - (a) heating the water in a hot water heater prior to the step of applying water against a solid detergent.
- 21. A method according to claim 15, wherein the solid detergent comprises surfactant in an amount of about 1.0 wt.% to about 80 wt.%.
- 22. A method according to claim 15, wherein the solid detergent comprises surfactant in an amount of about 5 wt.% to about 65 wt.%.
- 23. A method according to claim 15, wherein the method further comprises a step of:
 - (a) removing the liquid detergent concentrate from the liquid detergent concentrate reservoir and diluting the liquid detergent concentrate with a water to form a use solution.
- 24. A method according to claim 23, wherein the method further comprises a step of:
 - (a) directing the use solution to a vehicle wash system.
- 25. A method for washing a vehicle, the method comprising steps of:
 - (a) applying water against a solid detergent provided within a solid detergent reservoir to generate a liquid detergent concentrate;
 - (b) collecting the liquid detergent concentrate in a liquid detergent concentrate reservoir;

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(c) withdrawing liquid detergent concentrate from the liquid detergent concentrate reservoir and combining the liquid detergent concentrate with water to provide a use solution; and

(d) washing the vehicle with the use solution.